The Gage

An ABRFC Seasonal Newsletter

Volume 2 Issue 4 Winter 2002

ABRFC

National Weather Service
Arkansas-Red Basin
River Forecast Center
10159 East 11th Street
Suite 300
Tulsa, OK 74128

In This Issue

The GAGE Staff

Diane Cooper *Publisher*

James Paul *Editor*

http://www.srh.noaa.gov/

ABRFC Quality Assurance Program

By Bill Lawrence

Are the forecasts, products and services provided by the Arkansas Red Basin River Forecast Center (ABRFC) the best they can possibly be? That is a question we frequently ask ourselves. We are not only determined to find the answer but we are also determined that the answer will always be yes. To assist in evaluating forecasts, products and services, the ABRFC has set up a special team, the Quality Assurance Process (QAP) team. This team meets every Wednesday at noon. The team is composed of the senior staff of the ABRFC, along with a journey forecaster that changes each week. The main purpose of the team is to thoroughly review all products issued by the ABRFC during the past week. Everything is examined. Which products were issued? Were they issued on time? Was the content of good quality? Were there misspellings? Was the grammar correct on written products? Were the forecasts accurate? These and many other items are considered, in what we hope will be a comprehensive review of all of the ABRFC=s products and services. The ultimate goal is to improve our products and services by reviewing each one.

A weekly report is submitted to the Hydrologist- In- Charge (HIC) who then issues a sanitized report (no names associated with negative items) to the staff. The HIC also issues the official action items from the weekly reviews. The types of action items range from assignment of technical work involving the model (e.g., routing change, etc) to asking for staff awareness of a systemic problem (a product was late several times during the week).

In order to prevent this process from becoming a bureaucratic entanglement, the QAP team has set down several ground rules. Wednesday meetings will last no longer than one hour. The members of the team will have rotating duties each week, ranging from the write-up of the minutes of each meeting, to the gathering of data for review. Another important duty is tracking the action items that result. The team not only analyzes problem areas, but often acknowledges excellent work displayed in products or forecasts that went above and beyond what is considered normal operational work. Often times in the past, these small, but important positive contributions were going unnoticed.

The QAP weekly reviews have been ongoing since October 2002. Overall feedback from the staff has been positive. The process brought to light several items

(Continued on page 2)

Photograph above, courtesy Larry Walrod of WFO Pueblo, CO, shows a frozen stream at Seven Falls in Colorado Springs, CO in the Fountain Creek drainage basin.

(Continued from page 1)
that had not been previously noted as problem areas. A number of operational changes have already been made due to feedback from the QAP team. These changes will hopefully have a positive impact on the overall quality of products that the ABRFC issues.

The ABRFC plans to continue the weekly review portion of the Quality Assurance Process for the foreseeable future and expand the scope of our total Quality Assurance Program as appropriate. We are currently working on methods of incorporating information from river forecast verification statistics into the QAP. These statistics will be presented as both an individual forecaster and office average set of numbers. In addition to the weekly reviews and monitoring verification statistics, the total Quality Assurance Program at ABRFC also includes informal operational event reviews, more formal internal significant flood reviews and formal NOAA/NWS Service Assessments.

A SCEP Position Is Open at The ABRFC

by Diane Cooper

The Arkansas-Red Basin River Forecast Center (ABRFC) is currently accepting application packets to fill a Student Career Experience Program position (SCEP). The SCEP program is a joint effort between the NOAA/NWS and participating colleges and universities to allow students the opportunity to gain valuable work experience within the Federal government. This specific position at the ABRFC will give students the opportunity to work alongside and under the direction of hydrologists and hydrometeorological forecasters as they create routine and flood river forecasts, generate Quantitative Precipitation Forecasts, process hourly precipitation estimates as well as perform other duties which are necessary to support the hydrologic functions of the office. (For more information about the ABRFC in general, please refer to our website at www.srh.noaa.gov/abrfc.) Students may also be required to conduct independent research or complete a specialized project.

The work performed at the ABRFC is highly technical in nature, involving engineering and scientific activities related to river forecasting. Hence, applicants must have a declared major in the field of hydrology, civil engineering, water resources, meteorology, geology, geography or a closely related field at an academic institution. Students enrolled in the SCEP program must also meet any specific requirements outlined by the university and have been accepted to the university cooperative education or similar program. Depending upon the applicants current level of education, a SCEP student is normally paid at the GS-2, GS-3, GS-4 or GS-5 level. In addition, the student will earn annual and sick leave. The time commitment to this program is a total of 640 hours to be completed before graduation. This commitment is typically performed in a schedule of a 40-hour work week or less. Upon successful completion of a bachelor's or higher degree, as well as the completion of the 640 hour work commitment, the SCEP student may be offered a non-competitive appointment to a career-conditional position within the NWS; however, there is no guarantee that a position will be offered.

For more information about this program or if you are interested in applying for this position, please contact Greg Stanley by telephone at (918) 832-4109, via email at Gregory.Stanley@noaa.gov or by regular mail at ABRFC, ATTN: Greg Stanley, 10159 E. 11th St. Suite 300, Tulsa OK 74128. Note: All applications for the 2003 SCEP program must

For those who are detail oriented, you may have noticed a name change with the Publisher in this issue. Yes, with her marriage this past summer, Diane has converted to her married name of Cooper. Thus, if you need to contact her, the "Innes" account is no longer active and you will need to use the following address Diane.Cooper@noaa.gov.

Know Your WFO's – Amarillo, TX

by James Paul

Our *Know Our WFOs* series highlights the Weather Forecast Office (WFO) in Amarillo, Texas. Amarillo's weather office has a long history, having first been established in 1892. Its current area of responsibility covers most of the Texas Panhandle and all of the Oklahoma Panhandle (Figure 1)

The forecast office is responsible for portions of or tributaries of four major river systems that flow through the panhandles. These include: the Cimarron, North Canadian, Canadian, and Red Rivers. There are 11 river forecast points within the Amarillo Hydrologic Services Area (HSA). Elevations vary from about 2,000 feet above sea level in the southeast to about 4,700 feet above sea level in the northwest. The High Plains, which is predominantly grasslands, cover all but the gently undulating southeastern third of the Texas Panhandle, where the Rolling Plains begin. The two are separated by the scenic eastern High Plains escarpment commonly called the Caprock. The Canadian River cuts across the High Plains to isolate the southern part, which has little drainage and a reputation as one of the world's flattest areas of such size. Beneath the High Plains lies the enormous store of water held by the Ogallala Aquifer. High Plains soils are loamy, clayey, deep, and calcareous; those of the Rolling Plains are loamy and sandy; and those of the canyon lands and river valleys are loamy, clayey, shallow, and calcareous.

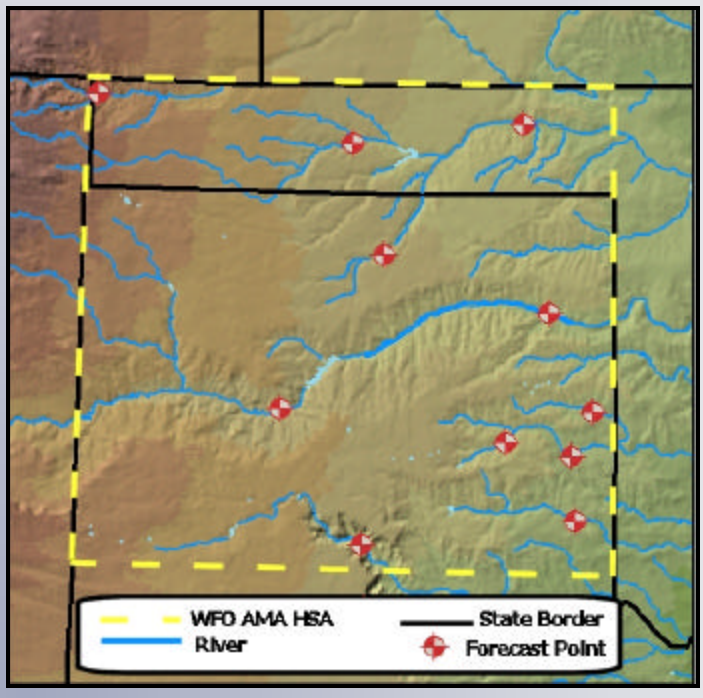
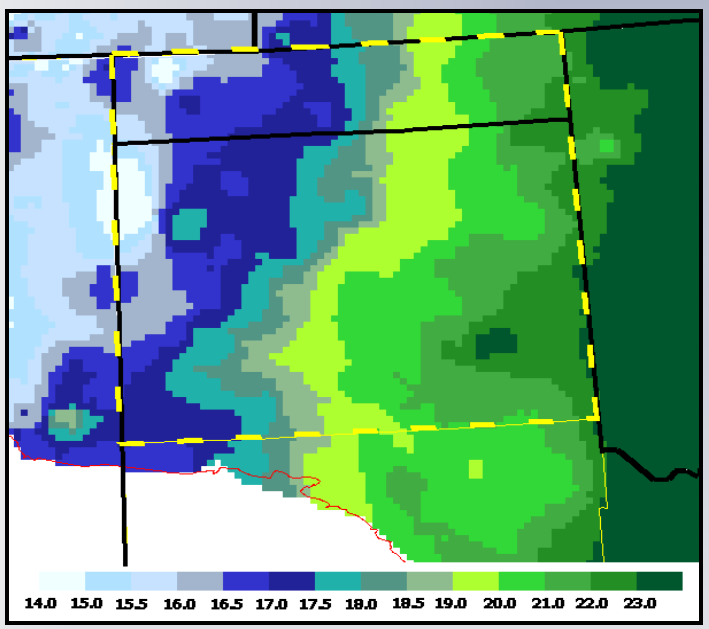


Figure 1 (above): *WFO Amarillo's area of responsibility*.



The average annual precipitation (Figure 2) ranges from about 23.0 inches in the eastern counties to about 14.0 inches in the western counties. Because of the relatively dry climate, widespread mainstem river flooding is uncommon. Figure 3 (page 4) shows the results of an ABRFC river flood climatology study indicating the lack of flooding at the forecast points in the Amarillo HSA.

(Continued on page 4)

Figure 2 (to the Left) *: Average Annual Precipitation (Inches)*

(Continued from page 3)

In comparison, the average annual days of flooding along some of the rivers in the eastern portions of the ABRFC range up to 30 days. However, this does not mean that flooding does not occur. During the spring and summer months, strong thunderstorms generating brief, intense amounts of rainfall often produce rapidly rising river levels and floods of short duration

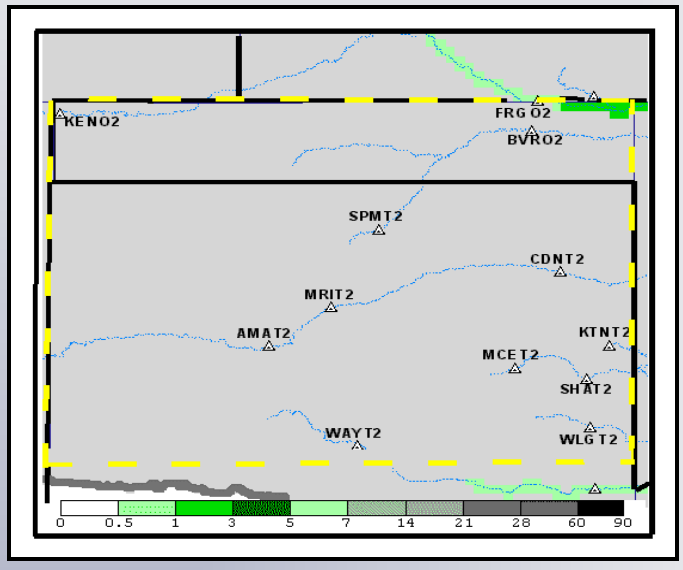


Figure 3*: Average Annual Days of Flooding from 1984-2000.*

Arrivals and Departures At The ABRFC

by Diane Cooper

The ABRFC experienced some staffing changes this past fall. As mentioned in the Fall 2002 newsletter, Senior Hydrologist, Randy Tetzloff retired after 37 years with the National Weather Service. We are happy to announce that his position was filled by Jeff McMurphy, a hydrologist at the ABRFC. Jeff is our AWIPS System Program manager and had actually worked with Randy over the past few years in coordinating the transfer of the Computer System management responsibility in preparation for Randy's retirement. In addition to the AWIPS system, Jeff is also in charge of the DAMBREAK program and its associated responsibilities as well as the forecast group ARCFUL which encompasses the ABRFC's portion of the lower Red River from Gainsville, TX to Fulton, AR, and its associated tributaries.

Another loss of the ABRFC was hydrologist Tracy Howieson. She transferred to the WGRFC as a hydrologist in October in response to her husband's promotion, Eric Howieson , from the WFO Tulsa to Southern Region Headquarters as the AWIPS Program Leader. Tracy contributed to many projects at the ABRFC; however, her two largest programs were Ensemble Streamflow Prediction (ESP)/Water Supply/Spring Flood Outlook program as well as the local spin-up of Advanced Hydrologic Prediction Services (AHPS). In addition, she maintained the New Mexico/West Texas Forecast group, which consists primarily of the upper reaches of the Canadian River and its tributaries above Lake Meredith in Texas. Upon her departure, a few changes in program leaders and forecast group responsibilities have taken place. John Schmidt is now the ESP program leader, while Greg Stanley is in charge of the AHPS program. As for forecast group assignments, Janet McCormick is responsible for the New Mexico/West Texas Group, Greg Stanley is now in charge of the Colorado Group and Mike Boehmke has the Upper and Lower Neosho River Forecast Groups. (Refer to Figure 1 for a map reference of the forecast group assignments.)

With Jeff's promotion and Tracy's departure, the ABRFC had two open hydrologist positions. We are pleased to announce that we have filled both positions. Harold "Lee" Crowley began on November 18th and Anthony "Tony" Anderson will report on January 13, 2003.

Lee and he and his wife were already residing in Tulsa upon his hire, and while not personally an Oklahoma native, he does have family in Oklahoma. Lee holds a BS degree in Meteorology

(Continued on page 5)

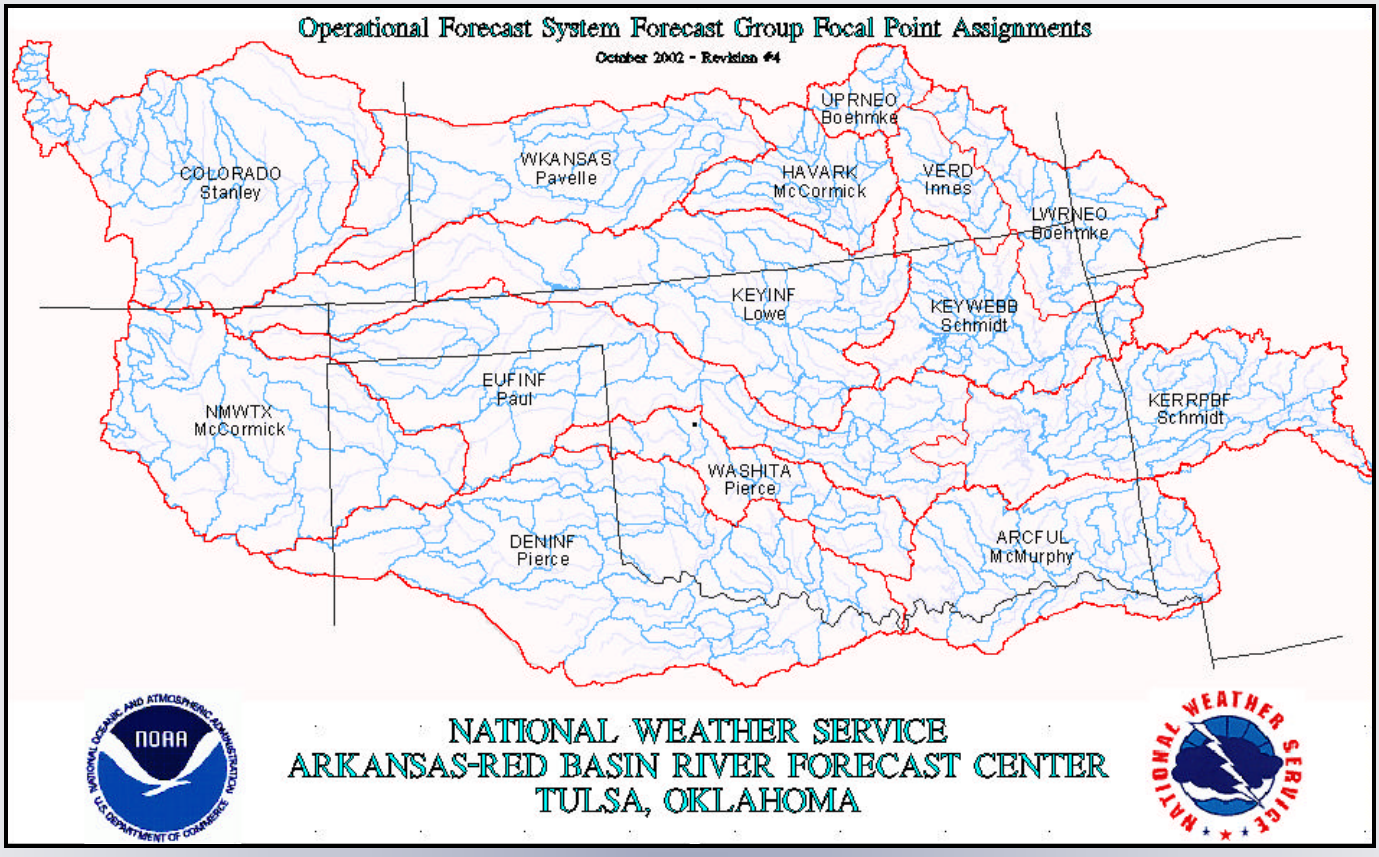


Figure 1*: Map display of the ABRFC Forecast groups assignments as of December 2002.*

(Continued from page 4)
from Mississippi State University. Before joining the National Weather Service (NWS), Lee worked for the USDA in Stoneville, MS. In this job, he performed data acquisition and quality control of meteorological data for local agricultural research. In addition, he closely worked with the WFO Jackson, MS office assisting the DAPM unit with the maintenance of the CO-OP network in the Delta region.

Tony comes to us from the Northern Plains. Tony has a MS in Range Management/Water Resources from the University of Wyoming. Tony's experience includes a Senior Hydrologist position with the South Dakota Department of Environmental and Natural Resources in Pierre, SD, a consultant position with HabiTech, Inc. in Laramie WY and an Associate Research Scientist at the University of Wyoming.

We are excited to add both Lee and Tony to the ABRFC family.

Figure 2*: New hire, Lee Crowley, learning ABRFC operations.*

Acronyms in this Edition

ABRFC – Arkansas-Red Basin River Forecast Center
AHPS – Advanced Hydrologic Prediction Services
AWIPS- Advanced Weather Interactive Processing System
BS – Bachelors of Science
COOP - Cooperative Observer Program
DAMBREAK – Software used to calculate flow, stage and crest information due to a dam failure.
DAPM – Data Acquisition Program Manager
ESP – Ensemble Streamflow Prediction
HIC– Hydrologist in Charge
HSA – Hydrologic Service Area
MS – Masters of Science
NWS – National Weather Service
NOAA – National Oceanic and Atmospheric Administration.
QAP – Quality Assurance Process
WFO – National Weather Service Forecast Office
SCEP – Student Career Experience Program
USDA – United States Department of Agriculture

Subscribe to the GAGE

The GAGE *is a quarterly informational newsletter produced by the ABRFC. Publications are also posted on our website at http://www.srh.noaa.gov/abrfc. To be notified via email of new publications, please send your email address to*

National Weather Service – ABRFC
10159 E. 11th St. Ste 300
Tulsa, OK 74128

In This Issue